

ABSTRACT OF THE DISCLOSURE

[0074] A method, computer readable media, and apparatus of hierarchical-based communication session and data distribution management that indexes client's communication preferences and network attribute information. Indexing is used to generate dynamic group membership lists that map into communication groups. Indexing is replicated at control nodes in the network overlay to allow distributed management of group membership. Send/receive operations are decoupled through data distribution and the indexing structure. Senders and receivers register their group communication interests to a parent node in the hierarchy. The session control structure aggregates client interest and dynamically updates replicas at control nodes which are selected according to the changes in registered client interest. The indexing structure has self-managing properties for automatic clustering based on client session and data interests, and dynamic partitioning of the session/data interest attribute space. Group membership is managed by querying the indexed session/data distribution management structure and mapping output to communication groups.